

## The syntax of fronting phenomena handout 4

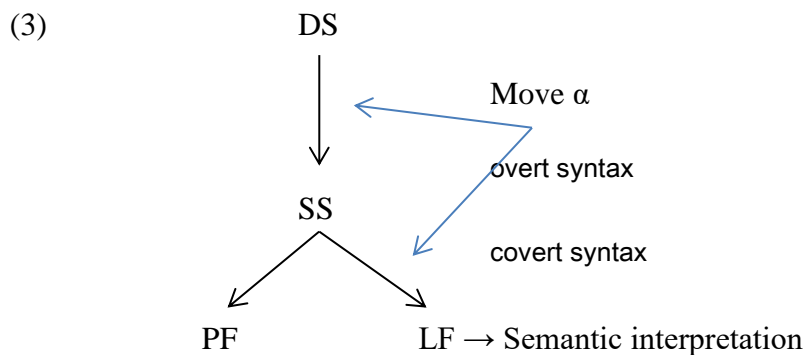
### Logical Form

(1) LF is the level of linguistic interpretation at which all grammatical structure relevant to semantic interpretation is provided. (Hornstein, 1995:3)

(2) LF is the phrase marker derived from S-structure by applications of „Move  $\alpha$ ”, branches with respect to PF and is input to rules of interpretation. (Hornstein, 1995:4)

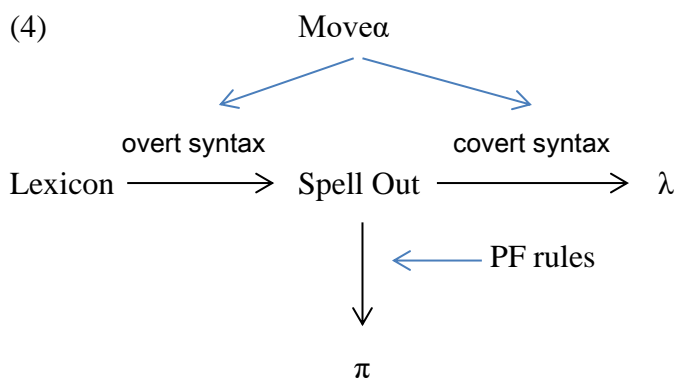
A GB-style grammar, very different from Minimalist theories.

T-model:



(+ Lexicon, filters: X'-theory, Projection Principle,  $\theta$ -theory, Binding-Theory, Case Theory, etc.)

The Minimalist Program: virtual conceptual necessity, UG has only two grammatical levels, LF and PF, Natural language sentences: a pairing of sound and meaning. PF: interfaces with the perceptual-articulatory (PA) system, LF: interfaces with the conceptual-intentional (CI) system. DS and SS do not exist. Full interpretation, feature checking.



### Some data

(5) *Peter saw Mary.*  
S(P, M)

(6) *Peter saw everyone.*

$\forall x (H(x) \rightarrow S(p, x))$  for all x it is the case that if x is human then Peter saw x

(7) *Peter saw someone.*

$\exists x (H(x) \& S(p, x))$  there is an x such that x is human and Peter saw x

(8) *Everyone saw someone.* ambiguous

$\forall x (H(x) \rightarrow (\exists y (H(y) \& S(x, y))))$  for every person x there is some person y such that x saw y

$\exists y (H(y) \& (\forall x (H(x) \rightarrow S(x, y))))$  there is some specific person y, such that for every person x x saw y

The difference is in the scope of the operators:  $\forall \gg \exists$  vs.  $\exists \gg \forall$

→ the linear order of words in a sentence does not always faithfully represent certain semantic properties of the sentence.

Hungarian:

(9) Többször is meghívtam mindenkit. ambiguity in the postverbal field

several times invited-SG1 everyone-ACC

'I invited everyone several times.'

többször is  $\gg$  mindenkit OR mindenkit  $\gg$  többször is

(10) Többször is mindenkit meghívtam. többször is  $\gg$  mindenkit

(11) Mindenkit többször is meghívtam. mindenkit  $\gg$  többször is

In the preverbal field quantifiers appear in the order defined by the scope properties of the sentence. "Hungarian wears its LF on its sleeve." (in the preverbal field)

What is overt movement in Hungarian takes place in a covert form in English: Logical Form. Typological differences between languages reduce to timing (at the LF level grammars are identical: poverty of stimulus argument for semantics, no/very limited data for fixing LF parameters). The satisfaction of semantic ends may or may not happen by overt syntactic means.

**Further arguments for assuming the existence of LF (based on Hornstein, 1995):**

A locality condition on movement:

**The Empty Category Principle (ECP): all traces must be properly governed.**

A trace is properly governed iff it is governed by a head  $X^0$  or locally bound by its antecedent.

**1. Wh-movement (wh in situ languages, scope of wh-words): adjunct/argument, subject/object asymmetry**

(12a) (?) Which car did John wonder how to fix?

(12b) \*How did John wonder which car to fix?

(13a) Which car did John say that Bill fixed?

(13b) \*Which mechanic did John say that fixed the car?

(14) Ni xiang-zhidao Lisi zeme mai-le sheme  
you wonder Lisi how buy-ASP what

What is x that you wonder how Lisi bought x  
(How do you wonder what Lisi bought: excluded)

**2. Superiority (similar restrictions in multiple questions):**

(15a) *I wonder who bought what.*

(15b) \**I wonder what who bought.*

Romanian:

(16a) *Cine ce cumpara?* (Who what buys)

(16b) \**Ce cine cumpara?*

**3. Quantifiers**

(17a) *At least one person expects every candidate to win.*

(17b) *At least one person expects (that) every candidate will win.*

**4. Antecedent-contained deletion (ACD)**

(18a) *John likes everyone that I do.*

Interpretation: Everyone that I like John likes

Problem: infinite regress: the null VP within the relative clause is interpretively dependent on the VP that contains it (18b). Solution: ACDs interpreted at LF (18c).

(18b) John [<sub>VP1</sub> likes [everyone that I do [<sub>VP2</sub> e]]]

(18c) [[Everyone<sub>i</sub> that I do [<sub>VP2</sub> e] [John [<sub>VP1</sub> likes t<sub>i</sub>]]]

## 5. Cross over effects

(19) \*Who<sub>i</sub> did he<sub>i</sub> give a book to t<sub>i</sub>                      Strong cross over

(20) \*Who<sub>i</sub> did his<sub>i</sub> mother give a book to t<sub>i</sub>              Weak cross over

(21) A variable must be free in the domain of its operator.

(22) A variable cannot serve as the antecedent of a pronoun on its left.

(22) \*He<sub>i</sub> gave everyone<sub>i</sub> a book.

(23) \*His<sub>i</sub> mother gave everyone<sub>i</sub> a book.

## 6. Bound pronouns

If a pronoun P is c-commanded by an NP O then P can be interpreted as a variable bound by O.

Movement alters the c-command domain of the moved expression.

(24) \*The man [who disliked every boy<sub>j</sub>] hit him<sub>i</sub>

LF: The man who<sub>i</sub> [every boy<sub>j</sub> [t<sub>i</sub> disliked t<sub>j</sub>] hit him<sub>j</sub>

Quantifier raising (QR) is clause bound, operator in the embedded relative clause, no c-command between operator and pronoun

No difference here with or without LF movement but see **parasitic gap constructions:**

(25) Which book<sub>i</sub> did Bill read t<sub>i</sub> after Frank reviewed t<sub>i</sub>

(26) \*Which book<sub>i</sub> t<sub>i</sub> was read by Bill after Frank reviewed t<sub>i</sub>

Requirement: the real gap does not c-command the parasitic gap. If it is in object position it does not c-command the trace inside the adjunct clause, if it is a subject it c-commands it.

(27) John kissed every child<sub>i</sub> after Bill introduced him<sub>i</sub>

(28) Orson will drink no wine<sub>i</sub> before its<sub>i</sub> time

Pronouns can be interpreted as bound variables. Why?

## 7. Reconstruction, Binding Theory, copy theory of movement

(31) Which picture of himself<sub>i</sub> did Bill<sub>i</sub> buy

(32) \*Which picture of John<sub>i</sub> did he<sub>i</sub> buy

GB: DS needed for the binding principles.

Prior to LF deletion:

Which picture of himself [Bill buy which picture of himself]

Which picture of John [he buy which picture of John]

Preference principle: delete as much redundant material from the head of an A'-chain as possible (=reconstruct whenever possible)

[Which<sub>i</sub> [Bill buy [t<sub>i</sub> picture of himself]]]

[Which<sub>i</sub> [he buy [t<sub>i</sub> picture of John]]]

These data together with the pronominal binding facts: Binding Theory applies exclusively at LF.

### Further relevant data

8. Expletive replacement at LF: effect on the scope of quantifiers

(29a) *There will not be many students present at the talk.*

(29b) *Many students will not be present at the talk.*

(30a) *There are often some students late for the lecture.*

(30b) *Some students are often late for the lecture.*

9. Passivization also affects quantifier scope

(31a) Everybody in this room speaks two languages.

(31b) Two languages are spoken by everybody in this room.

### Returning to topicalization and focusing (full quote from Haegeman 2012:19)

“While focalization (21a) gives rise to weak crossover (WCO; cf. Lasnik and Stowell 1991), this is not the case for CLLD/topicalization (21b).

(21) a. \* Gianni<sub>i</sub> sua<sub>i</sub> madre ha sempre apprezzato.  
Gianni his- fsg mother have-3 sg always appreciate- part-msg  
' Gianni his mother has always appreciated.'

b. Gianni<sub>i</sub>, sua<sub>i</sub> madre lo<sub>i</sub> ha sempre apprezzato.  
Gianni his- fsg mother him have-3 sg always appreciate- part-msg  
'Gianni, his mother has always appreciated.'

The same contrast is pointed out for English by Culicover (1991a : 37), who gives the following examples:

- (22) a. \* Robin<sub>i</sub> his<sub>i</sub> mother really appreciates. (Culicover 1991a : 37 (122a))  
b. Robin<sub>i</sub>, his<sub>i</sub> mother really appreciates. (Culicover 1991a : 37, (121a))

In line with Cinque ( 1990 ), Rizzi ( 1997 ) proposes that preposed focal constituents are quantificational operators binding a variable trace, while preposed topics are nonquantificational (anaphoric) operators binding a nonvariable trace (a ‘null constant’ in Rizzi’s approach).”

### **Suggested readings**

Haegeman, Liliane. 2012. *Adverbial Clauses, Main Clause Phenomena, and the Composition of the Left Periphery*. The Cartography of Syntactic Structures Volume 8. OUP.

Haegeman, Liliane. and Jacqueline. Guéron. 1999. *English Grammar*. A generative perspective. Oxford: Blackwell: Logical Form, pp. 538-566.

Hornstein, Norbert. 1995. *Logical Form: From GB to Minimalism*, Blackwell, Oxford.

Lasnik, Howard and Juan Uriagereka,. 2005. *A Course in Minimalist Syntax*. Oxford: Blackwell: LF Processes. Why We (Don’t?) Need Them and What They Might Be, pp. 180-222.